

ABSTRACT

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The invention is directed to a stable formulation of a biologically active protein useful for aerosol delivery to the respiratory tract of a patient in need of treatment comprising:

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(a) a carrier liquid comprising from about 10% to from about 100% V/V water and from about 0% to from about 90% V/V of an organic liquid;

(b) a biologically effective amount of a protein suspended or dissolved in a carrier liquid; and

(c) a stabilizing effective amount of a derivatized carbohydrate stabilizing agent suspended or dissolved in said carrier liquid.

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The stable formulations of the invention may optionally contain about 0.1% to about 5.0% W/V of a pharmaceutically acceptable excipient.